

## Contributors to This Issue

NOACH AMITAY, B.Sc., 1953, and Dipl. Ing., 1954, Technion, Israel Institute of Technology; M.Sc., 1957, Ph.D., 1960, Carnegie Institute of Technology; Bell Telephone Laboratories, 1962—. Mr. Amitay has been involved in electronic instrumentation, magnetic devices, tapered transmission lines, and electromagnetic field theory as applied to phased array antennas and wave scattering. Member, IEEE and Sigma Xi.

WERNER BLEICKARDT, Dipl. El. Ing., 1960, and Dr. Sc. Techn., 1963, both from Swiss Federal Institute of Technology, Zurich, Switzerland; Hasler Ltd., Bern, Switzerland, 1961–1965; Bell Telephone Laboratories, 1965—. With Hasler Ltd., Mr. Bleickardt worked on the design of pulse code modulation terminals for telephony. At Bell Telephone Laboratories he has been concerned with analytical studies of synchronization in PCM systems and is presently engaged in the design of high-speed digital circuits for PCM multiplex terminals. Member, IEEE.

T. M. BUCK, B.S., 1942, Muskingum College; M.S., 1948, and Ph.D., 1950, University of Pittsburgh; National Lead Co., 1950–52; Bell Telephone Laboratories, 1952—. Mr. Buck's work has been concerned mainly with chemical problems and surface properties of semiconductor materials and devices. He participated in developing silicon p-n junction radiation detectors for the *Telstar*® communications satellites and other space vehicles. He has been supervisor of a group developing materials and processes for silicon diode array targets for TV camera tubes. He is studying solid surfaces and ion implantation. Member IEEE, Sigma Xi, Phi Lambda Upsilon, Sigma Pi Sigma.

H. C. CASEY, JR., B.S. (E.E.), 1957, Oklahoma State University; Ph.D. (E.E.), 1964, Stanford University; Hewlett-Packard Co., 1957–62; Bell Telephone Laboratories, 1964—. Mr. Casey has been studying light absorption and emission in semiconductors and is now studying impurity solubility, diffusion, and injection luminescence in III-V compound semiconductors. Member, American Physical Society, Sigma Xi, Eta Kappa Nu, Sigma Tau.

M. H. CROWELL, B.S. (E.E.), 1956, Pennsylvania State University; M.S. (E.E.), 1960, New York University; Bell Telephone Laboratories, 1956—. From 1956 to 1963 he was engaged in designing and developing an electron beam encoder for a high-speed pulse code modulation system. Since 1963 he has been engaged in a study of optical modulators which use the electric field-induced shift in the absorption spectrum of a semiconductor. During this period he has also studied the characteristics of intracavity modulated lasers. Member, Tau Beta Pi, Eta Kappa Nu.

JOHN V. DALTON, B.S., 1964, Rutgers University; RCA Semiconductor Division, 1958–62; Bell Telephone Laboratories, 1962—. Mr. Dalton has worked on semiconductor device development, including studies of ion migration in thin insulator films on semiconductor surfaces and developing a silicon diode array camera tube target for *Picturephone*® visual telephone. Member, ECS.

CORRADO DRAGONE, Laurea in E.E., 1961, Padua University (Italy); Bell Telephone Laboratories, 1961—. Mr. Dragone has been engaged in experimental and theoretical work on microwave antennas and solid-state power sources. He is currently involved in solid-state radio systems experiments.

LOUIS H. ENLOE, B.S.E.E., 1955, M.S.E.E., 1956, Ph.D. (E.E.), 1959, University of Arizona, Tucson. Bell Telephone Laboratories 1959—. His early work was in modulation and noise theory in connection with space communications. Later work has been with lasers, coherent light, and holography with emphasis upon communication and display. He is head of the Opto-Electronics Research Department. Member, IEEE, Phi Kappa Phi, Sigma Xi, Tau Beta Pi, Pi Mu Epsilon, Sigma Pi Sigma.

VICTOR GALINDO, B.S. (E.E.), 1954, New York University; M.S. (E.E.), 1962, and Ph.D. (E.E.), 1964, University of California, Berkeley; Hughes Aircraft Company, 1954–1957, 1958–1960; M.I.T. Lincoln Laboratory, 1957–1958; Bell Telephone Laboratories, 1964—. Mr. Galindo has been engaged in applying electromagnetic theory to studies of microwave transmission devices, antennas, and phased arrays. Member, Eta Kappa Nu, Tau Beta Pi, IEEE.

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WILLIAM C. JAKES, JR., B.S.E.E., 1944, M.S.E.E., 1947, Ph.D. (E.E.), 1949, Northwestern University; Bell Telephone Laboratories 1949—. Mr. Jakes was originally engaged in research on microwave antennas and propagation. In 1959 he was assigned to the Project Echo satellite communication experiment as project engineer and later participated in the Telstar® experiment. He received an honorary doctorate from Iowa Wesleyan College and the Northwestern University Alumni Award in 1962 for contributions to satellite communications. In 1963 he became Head of the Radio Transmission Research Department, where fundamental studies of the use of microwaves for high-capacity mobile telephone systems are currently in progress. Fellow, IEEE; Member, Commission 2, U.R.S.I.; Eta Kappa Nu, Pi Mu Epsilon, Sigma Xi.

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R. E. PARKIN, B.Sc. (Eng.), 1962, Ph.D., 1965, Imperial College (University of London); Bell Telephone Laboratories, 1965—. Mr. Parkin is concerned with computer-aided design techniques with particular emphasis on hybrid integrated technology. Associate Member, IEE.

STEPHEN S. RAPPAPORT, B.E.E., 1960, Cooper Union; M.S.E.E., 1962, University of Southern California; Ph.D., 1965, New York University; Bell Telephone Laboratories, 1965-1968. Mr. Rappaport pursued theoretical studies of signal processing for radar and data communications. Now he is on leave of absence from the Laboratories to be with the State University of New York at Stony Brook, N. Y. Member, IEEE, Tau Beta Pi, Eta Kappa Nu, Sigma Xi.

STEPHEN O. RICE, B.S., 1929, D.Sc. (Hon.), 1961, Oregon State College; Graduate Studies, California Inst. of Tech., 1929-30 and 1934-35; Bell Telephone Laboratories, 1930—. In his first years at the Laboratories, Mr. Rice was concerned with nonlinear circuit theory, especially with methods of computing modulation products. Since 1935 he has served as a consultant on mathematical problems and in investigations of telephone transmission theory, including noise theory, and applications of electromagnetic theory. He was a Gordon McKay Visiting Lecturer in Applied Physics at Harvard University for the Spring, 1958, term. He is a fellow of the IEEE and received that society's Mervin J. Kelly Award in 1965.

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DAVID A. SPAULDING, A.B., 1959, M.S., 1960, Dartmouth College; M.S., 1961, Ph.D., 1965, Stanford University; Bell Telephone Laboratories, 1967—. Mr. Spaulding has been concerned with network studies for data transmission systems. Member IEEE, Phi Beta Kappa, Sigma Xi.

MICHAEL YAMIN, B.S., 1949, Polytechnic Institute of Brooklyn; Ph.D., 1952, Yale University; Mellon Institute, 1953-56; Bell Telephone Laboratories, 1957—. Dr. Yamin has been working on surface problems related to semiconductor device development, especially those concerned with thin passivating films such as silicon dioxide.